7th International Workshop on Air Quality Forecasting Research

NOAA Center for Weather and Climate Prediction

College Park, Maryland

September 1—3, 2015

Draft Agenda (as of August 12)

Day 1: Tuesday, September 1, 2015

8:00–8:30am Registration

8:30–8:45 Welcome (Steven Fine)

8:45–9:05 Keynote (Bill Lapenta)

9:05–9:35 Keynote (Veronique Bouchet)

9:35–10:05 Keynote (Bill Ryan)

10:05–10:35 Keynote (Mitch Goldberg)

10:35–10:55 BREAK

Session 1: Operational Air Quality Forecasting: Progress and Challenges (Ivanka Stajner and Veronique Bouchet)

10:55–11:15 Ivanka Stajner, "Operational Air Quality Forecasting: Progress and Challenges"

11:15–11:35 Radenko Pavlovic, "Operational Air Quality Forecasting in Canada: Current Status and Future Developments"

11:35–12:45 LUNCH

12:45–1:05 Pablo Saide, "Air quality forecasting for winter-time PM2.5 episodes occurring on multiple cities in south-central Chile"

1:05–1:25 Martin Cope, "Development of a Smoke Forecasting System for Prescribed Burning"

1:25–1:45 Limseok Chang, "A study of accuracy improvement for national air quality forecasting"

1:45–2:05 Sunil Peshin, "Challenges of SAFAR –Operational Air Quality Forecasting System for Indian Metros"

2:05–2:25 BREAK

Session 2: Emissions Forecasting (Daniel Tong and Steve Smith)

2:25–2:45 Daniel Tong, "Recent progress in emission forecasting to support NOAA National Air Quality Forecast Capability operations and research"

2:45–3:05 Steven Smith, "Improved Estimates of Historical Air Pollutant Emissions"

3:05–3:25 Talat Odman, “Top-down and bottom-up emissions forecasting for dynamic air quality management”

3:25–3:45 Menghua Wang, “Global Marine Isoprene Emission Data Derived from Satellite Ocean Color Measurements”

3:45–4:05 WeiWei Chen, “Global emissions of PM10 and PM2.5 from agricultural tilling and harvesting”

4:05–4:25 Juying Warner, “Decadal Record of Global Ammonia Observed by AIRS”

4:30– ADJOURN

5:30–8:30 Poster Session at the College Park Marriott Hotel & Conference Center (Rick Artz)

Day 2: Wednesday, September 2, 2015

Session 3: Data Assimilation (Greg Carmichael and Richard Ménard)

8:30–8:50 Greg Carmichael, “Improving Air Quality (and weather) Predictions via Application of New Data Assimilation Techniques Applicable to Coupled Models”

8:50–9:10 Richard Ménard, “International study group on the added value of chemical data assimilation in the stratosphere”

9:10–9:30 Pius Lee, “Progress on building an operational chemical analysis system in the NOAA Air Resources Laboratory”

9:30–9:50 Mark Ruminski, “Challenges in Near Real Time Operational Smoke Forecasting Using Satellite Data”

9:50–10:10 Tianfeng Chai, “Development of HYSPLIT inverse modeling technique to improve particulate matter (PM2.5) forecasts in the US”

10:10–10:30 Arthur Mizzi, “Assimilating Compact Phase Space Retrievals (CPSRs) of Atmospheric Composition with WRF-Chem/DART: A Regional Chemical Transport/Ensemble Kalman Filter Data Assimilation System”

10:30–10:50 BREAK

Session 4: Evaluation and Post-Processing (Paula Davidson and Michael Moran)

10:50–11:10 Michael Moran, “A Five-Year Performance Evaluation of Environment Canada’s Operational Regional Air Quality Deterministic Prediction System”

11:10–11:30 Jeff McQueen, “Evaluation of NWS/NCEP Meteorological Models and their Impact on Air Quality Prediction”

11:30–11:50 Brian Eder, “Continuous, Near Real-Time Application and Evaluation of the Community Multi-scale Air Quality (CMAQ) Model”

11:50–1:00 LUNCH

Continuation of Session 4: Evaluation and Post-Processing

1:00–1:20 Irina Djalalova, "CMAQ PM2.5 forecast improvements to a Kalman-filter Analog post-processing scheme"

1:20–1:40 Yang Zhang, "Multi-Year Application and Evaluation of WRF/Chem-MADRID for Real-Time Air Quality Forecasting over Southeastern United States"

1:40–2:00 Jose Baldasano, "Inter-annual evaluation of the Spanish Air Quality Forecast System CALIOPE: 2010-2014"

2:00–2:20 BREAK

Session 5: Megacities (Jeff McQueen and Limseok Chang)

2:20–2:40 Yongtao Hu, " Megacities in China and their air quality conditions and trends"

2:40–3:00 Alexander Baklanov, "Outcomes from the Coupled Chemistry-Meteorology/Climate Modelling Symposium (WMO, 2015) and EuMetChem COST Action"

3:00–3:20 Hyuncheol Kim, "NO2 column densities over North American urban cities: The effect of satellite footprint resolution"

3:20–3:40 Min Huang, "Integrating observations into air quality modeling in US megacities: improvement in estimated contributions from trans-boundary pollution, local anthropogenic and biogenic emissions"

3:40–4:00 Gufran Beig, "Inconsequential Role of Emissions in defining Air Quality of Indian Mega City Delhi under Changing Climate"

4:00–4:20 Manju Mohan, "Performance Evaluation of WRF/Chem model and Sensitivity studies to Chemical Mechanisms for Ozone Simulation Over Megacity Delhi"

4:20–4:40 Sheng-Po Chen, "Investigation of African and Asian dust events using NOAA global dust forecasts"

4:40–5:00 Nina Randazzo, "Evaluation of CMAQ prediction of carbon monoxide surface concentrations and vertical profiles"

5:00— ADJOURN

Day 3: Thursday, September 3, 2015

Session 6: Interactions of Meteorological and Air Quality Prediction (Pius Lee and Paul Makar)

8:30–8:50 Rohit Mathur, "Examining air quality-meteorology interactions on regional to hemispheric scales"

8:50–9:10 Georg Grell, "Evaluating the impact of aerosols on numerical weather prediction with a scale and aerosol aware convective parameterization"

9:10–9:30 Christopher Loughner, "The role of bay breezes on a high surface ozone episode during the Houston, Texas DISCOVER-AQ field campaign"

9:30–9:50 Clare Flynn, “Evaluation of Six PBL Schemes in the Coupled WRF/CMAQ Model and Comparison to Observations during DISCOVER-AQ July 2011”

9:50–10:10 Paul Makar, “Coupled Chemistry-Meteorology: Simulations at 2.5km Resolution”

10:10–10:30 Ryan Stauffer, “Clustering ozonesonde profiles with self-organizing maps: Meteorological influences and comparisons with climatology”

10:30–10:50 BREAK

Session 7: Forecasting and Communicating Impacts (Heather Morrison and Sikchya Upadhaya)

10:50–11:10 Joel Dreessen, “The Influence of Canadian Smoke on Maryland’s June 11, 2015 Ozone Exceedance Event”

11:10–11:30 Serena Chung, “AIRPACT-Fire for enhanced communication of human health risk with improved wildfire smoke modeling”

11:30–11:50 Douglas Westphal, “Operational Service-Oriented Delivery and Networking of NAAPS Forecasts to the AQ Community”

11:50–12:10 Neha Parkhi, “Impact of Indian Forecasting System SAFAR in Mitigating Pollution”

12:10–2:00 WORKING LUNCH

2:00— ADJOURN

List of Posters

S1a Eunhye Kim, “Ensemble particulate matter forecast system over Asia/Korea during 2012 – present”

S1b Seunghee You, “Impact of foreign emissions on simulated ozone in South Korea”

S1c Richard Ménard, “Revisiting error statistics and objective analysis for surface pollutants”

S1d Ho-Chun Huang, “The Impact of New BlueSky Smoke Emission on the NWS Operational HYSPLIT smoke Forecasting”

S1e Mike Newchurch, “TOLNet – A Tropospheric Ozone Lidar Profiling Network for Air Quality Process Studies”

S1f Jacek Kaminski, “A high resolution air quality forecasting system for Poland”

S1g Jianping Huang, “Bias analysis and correction of developmental NOAA NAQFC PM2.5 predictions”

S1h Nikolay Balashov, “Integrating Uncertainty of Surface Ozone and PM2.5 Prediction with a New Statistical Approach”

S1i Changhan Bae, “Comparison of Air Quality Forecasts over Korea with CMAQ and CAMx during 2014”

S1j Soontae Kim, “Improving Air Quality Forecasting Systems in Korea”

S1k Sylvie Gravel, “FireWork Performance Analysis and Recent Improvements”

S1l Akane Kamada, "Improvement of the photochemical oxidant forecast by JMA in 2015"

S1m Ariel Stein, “Potential Use of Transport and Dispersion Model Ensembles for Forecasting Applications”

S2a Min Huang, “Toward Enhanced Capability for Detecting and Predicting Dust Events in the Western US”

S2b Ravan Ahmadov, “Impact of oil and natural gas emissions on summertime air quality over the continental US: bottom-up and top-down emission datasets and regional air quality modeling”

S3a Arthur Mizzi, “Introduction to WRF-Chem/DART: An ensemble Kalman filter data assimilation system for WRF-Chem”

S3b Yulia Zaitseva, “The Implementation of Regional Deterministic Air Quality Analysis for surface PM10, NO2 and SO2 at the Canadian Meteorological Center”

S3c Mariusz Pagowski, “CMAQ and WRF-Chem: A statistical comparison of PM2.5 forecasts and assimilation systems.”

S3d Mariusz Pagowski, “Real-time air-quality forecasting over North America using RAP-Chem and the GSI”

S4a Steve Peckham, “Evaluating WRF-Chem simulations of the January 2013 Beijing air pollution event”

S4b Paul Makar, “The sensitivity of model plume rise to emissions inputs”

S4c Rokjin Park, “PM forecasts for MAPS (pre-KORUS-AQ) campaign using a new chemistry-weather forecasting model (GRIMs-Chem)”

S4d Lihua Wang, "Ozone lidar observations for air quality studies"

S5a Daniel Mbithi, “Urban Heat Island as a result of land use land cover changes and their impact on land surface temperature in Addis Ababa city in Ethiopia”

S5b Okgil Kim, “Influence of fossil-fuel power plant emissions on the surface PM2.5 in the Seoul Metropolitan Area, South Korea”

S5c Agustin García-Reynoso, “Tephra dispersion forecast: Popocatepetl Case Study”

S6a Rick Saylor, “Particle Dry Deposition Algorithms in Air Quality Models: Old, New and Future”

S6b Hamish Hains, “Determining Representative Meteorological Measurement Stations in Metropolitan Areas and Quantifying the Impact of Spatial Variability on Air Dispersion Modelling Results”